REMARKS

In accordance with the foregoing, the Abstract and claims 1, 3-5, 9, 16 and 17 have been amended. Claim 2 has been cancelled and new claims 18-21 have been added. Claims 1 and 3-21 are pending and under consideration.

In the Office Action the Examiner allowed claim 15 and objected to claims 4-14 and 17, while rejecting claims 1-3 and 16. The Examiner's rejections and objections are traversed below.

ALLOWABLE SUBJECT MATTER

In items 5 and 6 on page 5 of the Office Action the Examiner indicated that claim 15 is allowed and that claims 4-14 and 17 were objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

By this Amendment, objectionable claim 5 has been rewritten in independent form as amended claim 5. Therefore, it is submitted that claim 5 and the claims which depend from claim 5 (claims 6-10 and new claims 18 and 19) are in condition for allowance.

New claim 20 corresponds to prior claim 11 as rewritten in independent form. Therefore, it is also submitted that claim 20 is in condition for allowance.

Further, as indicated above, the Examiner has already allowed claim 15.

THE PRIOR ART REJECTIONS

In items 3 and 4 on pages 2-4 of the Office Action the Examiner rejected claims 1-3 and 16 under 35 U.S.C. § 102 as anticipated by either U.S. Patent Publication 2002/0089724 to Nishimoto or U.S. Patent 5,973,816 to Akiyama et al.

THE PRIOR ART

The Nishimoto et al. patent publication is directed to a dispersion compensating method and apparatus which is capable of readily conducting automatic compensation of waveform degradation caused by dispersion characteristics of an optical transmission path. Referring to FIG. 1 and paragraphs [0050] to [0056], a dispersion compensating apparatus 1 comprises a variable dispersion compensator 10 as a waveform degradation compensating section for compensating for wavelength dispersion in an optical signal to be input. An optical receiving circuit 11 and a bit error information monitoring circuit 12 cooperatively act as a bit error information generating section for generating information concerning bit errors of the optical

signal to be output from the variable dispersion compensator 10. A controlling circuit 13 controls a wavelength dispersion value (compensation amount) of the variable dispersion compensator 10 based on the bit error information generated by the bit error information monitoring circuit 12. Nishimoto discloses an arrangement in which wavelength dispersion in an optical signal and degradation of an optical signal waveform caused by wavelength dispersion and polarization mode dispersion of the transmission path, can be readily compensated.

The Akiyama et al. reference is directed to a method and apparatus for driving an optical modulator that generates a pulse driving voltage having a rising edge and a decaying edge. Referring to Figure 16(B) and column 16, lines 25-63, an arrangement is disclosed in which a laser light emitted from a laser diode 106 is input to a Mach-Zehnder modulator 107 which is driven on one side only by a pulse signal 421 generated by a pulse generator 108. Wavelength chirping is generated corresponding to the increment ratio of pulse signal 421, thereby producing two different wavelengths of optical pulses 422 and 423 output from the Mach-Zehnder modulator 107. The optical pulses 422 and 423 are transmitted to an optical fiber 110, reflected by a loop-back device 111 and returned to the optical fiber 110. Then, optical pulses 422' and 423' which are transmitted and returned to the optical filter 110, are detected by a detector 109. In this configuration, a pulse interval $d+2\Delta d$ of the optical pulses 422' and 423' is measured and compared with the pulse interval d of optical pulses 422 and 423 to compute the change $2\Delta d$ of the pulse interval. Thereafter, the wavelength dispersion of the optical filter 110 can be obtained by an equation based on the computed change $2\Delta d$ of the pulse interval.

CLAIM 1 PATENTABLY DISTINGUISHES OVER THE PRIOR ART

Claim 1 as amended corresponds to prior claim 2 as rewritten in independent form. It is submitted that neither Nishimoto et al. nor Akiyama et al. teach or suggest the claimed optical dispersion monitoring apparatus of claim 1 which includes:

> a light receiving section converting said input optical signal into an electrical signal; and
>
> a signal transition position detecting section detecting the voltage level corresponding to at least one of a rising edge and a falling edge of a waveform of the electrical signal converted in said light receiving section, and
>
> wherein said dispersion information extracting section compares the reference value indicated by the reference signal with the voltage level detected in said signal transition position detecting

section, and outputs a signal corresponding to the comparison result as dispersion information.

Further, it is submitted these features which were previously found in claim 2 are not specifically addressed by the Examiner in the Office Action. Applicants believe that these features are not taught or suggested by Nishimoto et al. or Akiyama et al., either taken alone or in combination. Therefore, it is submitted that claim 1 patentably distinguishes over the prior art.

DEPENDENT CLAIMS

Dependent claims 3, 4, 11-14, 16 and 17 depend from claim 1 and include all the features of that claim plus additional features which are not taught or suggested by the prior art. For example, the Examiner has already taken the position that the features of claims 4, 11-14 and 17 are not taught by the prior art. Therefore, it is submitted that claims 3, 4, 11-14, 16 and 17 patentably distinguish over the prior art.

NEW CLAIM 21

New claim 21 is directed to an optical dispersion monitoring apparatus which includes:

a characteristic amount detecting section including:

a light receiving section converting the input optical signal into an electrical signal; and

a signal transition position detecting section detecting a voltage level corresponding to at least one of a rising edge and a falling edge of a waveform of the electrical signal; and

a dispersion information extracting section extracting information related to the dispersion which has occurred in the optical signal by comparing a reference value indicated by a reference signal with the voltage level detected in said signal transition position detecting section, and outputting a signal corresponding to the comparison result as dispersion information.

Therefore, it is submitted that claim 21 patentably distinguishes over the prior art.

SUMMARY

It is submitted that none of the references, either taken alone or in combination, teaches the present claimed invention. Thus, claims 1 and 3-21 are deemed to be in a condition suitable for allowance. Reconsideration of the claims and an early notice of allowance are earnestly solicited.

Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

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